STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.:	MO-0106852
Owner:	Mississippi Lime Company
Address:	16147 US Highway 61, Ste. Genevieve, MO 63670
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	Mississippi Lime Company, Peerless Mine
Address:	16147 US Highway 61, Ste. Genevieve, MO 63670
Legal Description:	See pages 2 - 3
Receiving Stream:	Tributary to South Gabouri Creek (U)
First Classified Stream and ID:	Mississippi River (P)(01707)
USGS Basin & Sub-watershed No.:	(07140101-230004)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

See Pages 2 - 3

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

May 6, 2005
Effective Date

Doyle Childers
Doyle Childers, Director, Department of Natural Resources
Executive Secretary, Clean Water Commission

May 5, 2010
Expiration Date

Edward Galbraith, Director of Staff, Clean Water Commission

FACILITY DESCRIPTION (continued)

Outfall #001 - SIC #1422
Underground limestone mine/pit dewatering/settling basin.
Design flow is 9.4 MGD.
Actual flow is 0.6 MGD.
Legal Description: SE ¼, NE ¼, Sec. 29, T38N, R9E, Ste. Genevieve County

Outfall #002 - SIC #3274
Storm water runoff from manufacturing area and railway area.
Design flow is 3.78 MGD.
Actual flow is dependent on rainfall.
Legal Description: NE ¼, NW ¼, Sec. 29, T38N, R9E, Ste. Genevieve County

Outfall #003 - SIC #3274
Storm water runoff from waste product disposal site.
Design flow is 10.35 MGD.
Actual flow is dependent on rainfall.
Legal Description: SW ¼, NW ¼, Sec. 29, T38N, R9E, Ste. Genevieve County

Outfall #004 - SIC #3274
Storm water runoff from manufacturing area, railway area, and waste product disposal site/settling basin/pH Neutralization.
Design flow is 5.78 MGD.
Actual flow is dependent on rainfall.
Legal Description: SW ¼, NW ¼, Sec. 29, T38N, R9E, Ste. Genevieve County

Outfall #005 - SIC #3274
Storm water runoff from waste product disposal site.
Design flow is 3.0 MGD.
Actual flow is dependent on rainfall.
Legal Description: SE ¼, SW ¼, Sec. 30, T38N, R9E, Ste. Genevieve County

Outfall #006 - SIC #3274
Treated process water/holding basin.
Design flow is 2.4 MGD.
Actual flow is 2.4 MGD.
Legal Description: SE ¼, NW ¼, Sec. 29, T38N, R9E, Ste. Genevieve County

Outfall #007 - SIC #3274
Process water/tailings ponds/storm water runoff.
Design flow is 15.9 MGD.
Actual flow is dependent on rainfall.
Legal Description: SE ¼, NW ¼, Sec. 29, T38N, R9E, Ste. Genevieve County

Outfall #008 – SIC #3274
No-discharge sanitary lagoon/spray irrigation/sludge is retained in lagoon.
Design population equivalent is 1,140 employees.
Design flow is 17,100 GPD.
Actual flow is 12,000 GPD.
Legal Description: NE ¼, SE ¼, Sec. 30, T38N, R9E, Ste. Genevieve County

Outfall #009 - SIC #3274
Partially treated process water/holding basin/evaporative cooling.
Design flow is 3.6 MGD.
Actual flow is 3.6 MGD.
Legal Description: SE ¼, NE ¼, Sec. 30, T38N, R9E, Ste. Genevieve County

FACILITY DESCRIPTION (continued)

Outfall #010 - SIC #3274
Storm water from railway area.
Design flow is 1.61 MGD.
Actual flow is dependent on rainfall.
Legal Description: SW ¼, NE ¼, Sec. 29, T38N, R9E, Ste. Genevieve County

Outfall #011 - SIC #3274 – This outfall has been eliminated.

Outfall #012 – SIC 3274 – This outfall has been eliminated.

Outfall #013 – SIC 3274 – This outfall has been eliminated.

Outfall #014 - SIC #4491
Storm water from barge loading facility.
Design flow is 0.22 MGD.
Actual flow is dependent on rainfall.
Legal Description: NE ¼, NE ¼, Sec. 17, T38N, R9E, Ste. Genevieve County

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	**FINAL** EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001 – Pit Dewatering Settling Basin						
Flow	MGD	*		*	once/week	24 hr. estimate
Total Suspended Solids	Mg/L	120		80	once/week	grab
pH – Units	SU	6.0-9.9		6.0-9.9	once/week	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE June 28, 2005 .						
Whole Effluent Toxicity (WET) Test	% Survival	See Special Conditions			once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE October 28, 2005 .						
Outfall #002 Flow	MGD	*		*	once/week***	24 hr. estimate
Total Suspended Solids	Mg/L	90		80	once/week***	grab
PH – Units	SU	**		**	once/week***	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE June 28, 2005 .						

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Part I STANDARD CONDITIONS DATED October 1, 1980, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #003						
Flow	MGD	*		*	once/week***	24 hr. estimate
Settleable Solids	mL/L/hr	2.5		1.5	once/week***	grab
pH – Units	SU	+		+	once/week***	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE June 28, 2005 .						
Whole Effluent Toxicity (WET) Test	% Survival	See Special Conditions			once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE October 28, 2005 . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
Outfall #004						
Flow	MGD	*		*	once/week***	grab
Total Suspended Solids	mg/L	90		80	once/week***	grab
pH – Units	SU	**		**	once/week***	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE June 28, 2005 .						
Whole Effluent Toxicity (WET) Test	% Survival	See Special Conditions			once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE October 28, 2005 . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
Outfall #005						
Flow	MGD	*		*	once/week***	24 hr. estimate
Settleable Solids	mL/L/hr	2.5		1.5	once/week***	grab
pH – Units	SU	+		+	once/week***	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE June 28, 2005 .						
Whole Effluent Toxicity (WET) Test	% Survival	See Special Conditions			once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE October 28, 2005 . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Part I STANDARD CONDITIONS DATED October 1, 1980, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	**FINAL** EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfalls #006 & #009 – Treated and Partially Treated Process Water (Note 1)						
Flow	MGD	*		*	once/week	grab
Total Suspended Solids	mg/L	50		25	once/week	grab
pH – Units	SU	**		**	once/week	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE June 28, 2005 .						
Outfall #007 – Stormwater and Process Water						
Flow	MGD	*		*	once/event****	24 hr. estimate
Total Suspended Solids	mg/L	50		25	once/event****	grab
pH – Units	SU	**		**	once/event****	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE June 28, 2005 .						
Outfall #008 – Lagoon – Emergency Discharge Only						
Flow	MGD		*	*	once/day	24 hr. estimate
Biochemical Oxygen Demand$_5$	mg/L		65	45	once/week	grab
Total Suspended Solids	mg/L		110	70	once/week	grab
pH – Units	SU		**	**	once/week	grab
Outfall #008 – Land Application System						
Lagoon Freeboard	feet	*		*	once/month	grab
Irrigation Period	hours	*		*	once/day	total
Volume Irrigated	gallons	*		*	once/day	total
Application Area	acres	*		*	once/day	total
Application Rate	inches/acre	1.3	3.0		once/day	total
Rainfall	inches	*			once/day	total
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE October 28, 2005 . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Part I STANDARD CONDITIONS DATED October 1, 1980, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

PERMIT NUMBER MO-0106852

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	**FINAL** EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #010– Stormwater Flow	MGD	*		*	once/week	24 hr. estimate
Settleable Solids	mL/L/hr	2.5		1.5	once/week	grab
pH – Units	SU	+		+	once/week	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE June 28, 2005 .						
Whole Effluent Toxicity (WET) Test	% Survival	See Special Conditions			once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE October 28, 2005 .						
Outfall #014 - Stormwater Flow	MGD	*		*	once/month	24 hr. estimate
Total Suspended Solids	mg/L	90		80	once/month	grab
pH – Units	SU	**		**	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE June 28, 2005 . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Part I STANDARD CONDITIONS DATED October 1, 1980, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

* Monitoring requirement only.

** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units.

*** Monitoring frequency shall consist of samples taken during, or immediately following a 24-hour rainfall event of one inch or greater.

**** May only discharge after a 10-year, 24-hour rainfall event. This equals 5.1 inches for the plant site.

\+ pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-10.0 pH units.

Note 1 – The maximum volume of water discharged through Outfalls #006 and #009 shall not exceed the amount of stormwater introduced into the treatment plant, calculated on a geographical area basis. If no discharge occurs during a specific monthly reporting period, the accumulated volume of treated water must be discharged before the end of the following quarterly period. In addition to the foregoing, Mississippi Lime may discharge water from Outfall #009 in an amount equal to the volumes pumped to the "blue pool" directly from the underground mine. In all respects, effluent discharged from Outfalls #006 and #009 must meet the limits currently specified in the permit for those outfalls.

C. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
   (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
      (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
      (2) controls any pollutant not limited in the permit.
   (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
   (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

   The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. All outfalls must be clearly marked in the field.

3. Permittee will cease discharge by connection to areawide wastewater treatment system within 90 days of notice of its availability.

4. Changes in Discharges of Toxic Substances

   The permittee shall notify the Director as soon as it knows or has reason to believe:
   (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
      (1) One hundred micrograms per liter (100 ug/L);
      (2) Two hundred micrograms per liter (200 ug/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
      (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
      (4) The level established in Part A of the permit by the Director.
   (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.

5. Report as no-discharge when a discharge does not occur during the report period.

6. General Criteria. The following water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
   (a) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
   (b) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
   (c) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
   (d) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;

C. SPECIAL CONDITIONS (continued)

(e) There shall be no significant human health hazard from incidental contact with the water;
(f) There shall be no acute toxicity to livestock or wildlife watering;
(g) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
(h) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

7. Sludge and Biosolids Use For Domestic Wastewater Treatment Facilities
(a) Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions.
(b) If sludge is not removed by a contract hauler, permittee is authorized to land apply biosolids. Permit Standard Conditions, Part III shall apply to the land application of biosolids. Permittee shall notify the department at least 180 days prior to the planned removal of biosolids. The department may require submittal of a biosolids management plan for department review and approval as determined appropriate on a case-by-case basis.

9. Biosolids Land Reclamation for Lime Waste Piles and other areas

(a) Biosolids may be land applied for land reclamation of lime waste piles in order to establish and maintain adequate vegetative ground cover for erosion control and water quality protection. The following limitations shall be followed:
(1) Only Class A or B sewage sludge biosolids with low metals content and with more than 20 percent total solids content may be used. See permit Standard Conditions Part III, Water Quality Guides WQ 424-245 for requirements for biosolids class A and B, and low metals category. The permittee shall obtain certification from the biosolids generating facility that the biosolids meet this criteria before accepting transport of biosolids onto the Mississippi Lime Company site.
(2) Biosolids application rates shall not exceed a Plant Available Nitrogen (PAN) rate of 300 pounds per acre for a one time application rate for land reclamation. The actual application rate shall be adjusted each year based on the actual testing results for the biosolids delivered to the site. Testing results provided by the biosolids generator may be used. In no case, shall the annual biosolids application rate exceed 135 dry tons of biosolids per acre. After establishment of vegetation, additional biosolids may be added as needed not to exceed fertilizer application rates in accordance with permit Standard Conditions Part III.
(3) Other organic materials such as sawdust, yard waste compost, straw or other plant vegetation residues may be mixed with biosolids or directly land applied as needed for establishing of adequate soil organic matter for establishing and maintaining vegetative cover on the reclamation sites.
(4) Biosolids will be transported to the site and may be temporarily stored in bermed storage areas located on top of the lime tailing piles. Land application will occur as soon as practical to minimize storage time. A construction permit is not required for the temporary storage basins and the basins will be closed upon completion of the reclamation project.
(5) Storm water runoff from the land reclamation areas shall be monitored once per month for, pH, nitrate nitrogen as N, ammonia nitrogen as N, and Biochemical Oxygen Demand (BOD), until such time as three consecutive samples record concentration levels of 15 mg/L or less of BOD.

C. SPECIAL CONDITIONS (continued)

9. Biosolids Land Reclamation for Lime Waste Piles (continued)

(6) An annual report on the land reclamation shall be submitted by January 28 of each year. The annual report shall include the amount and location of biosolids mixing and temporary storage sites, amount of biosolids and other materials that are land applied per acre, the number of acres and location map of each site, amount of PAN in pound per acre, method of land application, seed germination, vegetation type and response, daily precipitation received at the site, storm water runoff monitoring results, and biosolids testing results.

(7) The biosolids project shall be conducted in accordance with the Sludge Management Plan for Biosolids Land Reclamation Project dated June 1998 and subsequent revisions approved by the department.

(8) Biosolids from the City of O'Fallon have been approved for use in the reclamation project. Other biosolids meeting the permit requirements may also be used.

10. Special Conditions for Wastewater Irrigation

(a) Wastewater Irrigation System.

(1) System Design and Application Rates.

(a) There shall be design capacity for at least 95 days storage for wastewater flows, plus the one in ten year rainfall minus evaporation and the 25 year 24-hour rainfall.

(b) Irrigation rates per acre shall not exceed 0.2 inch/hour, 1.0 inch/day, 3.0 inch/week and 60 inches/year on the irrigation sites.

(c) The wastewater irrigation site(s) shall be at least 5.77 acres.

(d) The vegetation grown on the irrigation site shall be grass.

(e) Wastewater shall not be applied to field slopes greater than 12%.

(f) The wastewater irrigation system shall be capable of irrigating the annual design flow during an application period of less than 100 days or 800 hours per year.

(2) Buffer Zones. There shall be no irrigation within 300 feet of any downgradient pond, lake, sinkhole, or losing stream; 100 feet of gaining streams or tributaries including wet weather tributaries; 150 feet of dwelling; or 50 feet of the property line.

(3) General Operating Requirements.

(a) There shall be no irrigation during frozen, snow covered, or saturated soil conditions.

(b) There shall be no irrigation on days when more than 0.1 inch of precipitation is received or when there is a weather forecast for more than 40 percent chance of rainfall within the next 24-hours.

(c) The wastewater irrigation system shall be operated so as to provide uniform distribution of irrigated wastewater over the entire irrigation site.

(d) A complete ground cover of vegetation shall be maintained on the irrigation site.

(e) Wastewater shall be land applied only during daylight hours.

(f) The irrigation system and application site shall be visually inspected at least once per hour during wastewater irrigation.

(g) The irrigation system shall have automatic shut off device to shut down the system due to malfunction.

(4) Any discharge from the lagoon or land application site shall be reported to the department within 24 hours.

(5) The operator and supervisor shall receive at least 12 hours/year of training in wastewater irrigation.

C. SPECIAL CONDITIONS (continued)

(6) Storm water runoff locations from the irrigation sites must be marked in field and on a topographic map. The map shall be submitted to the department within 30 days after permit issuance.

11. Whole Effluent Toxicity (WET) tests will be conducted as follows:

SUMMARY OF WET TESTING FOR THIS PERMIT				
OUTFALL	A.E.C. %	FREQUENCY	SAMPLE TYPE	MONTH
001, 003, 004, 005, 010	100%	Annually	grab	March

(a) Test Schedule and Follow-Up Requirements

(1) Perform a multiple-dilution test in the months and at the frequency specified above. If the effluent passes the test, do not repeat the test until the next test period.
Submit test results along with complete copies of the test reports as received from the laboratory within 30 calendar days of availability to the WPCP, Planning Section, P.O. Box 176, Jefferson City, MO 65102.

(2) If the effluent fails the test, a multiple dilution test shall be performed within 30 calendar days , and biweekly thereafter, until one of the following conditions are met:
(a) THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.
(b) A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.

(3) The permittee shall submit a summary of all test results for the test series along with complete copies of the test reports as received from the laboratory to the WPCP, Planning Section, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the third failed test.

(4) Additionally, the following shall apply upon failure of the third test: A toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permitee shall contact WPCP, Planning Section to ascertain as to whether a TIE or TRE is appropriate . The permittee shall submit a plan for conducting a TIE or TRE to the Planning Section of the WPCP within 60 calendar days of the date of DNR's direction to perform either a TIE or TRE. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.

(5) Upon DNR's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET test schedule may be established by DNR for this period.

(6) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essentially unchanged and the permittee is proceeding according to a DNR approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as required in the permit, without the follow-up requirements, will be required during this period.

(7) All failing test results shall be reported to WPCP, Planning Section, P.O. Box 176, Jefferson City, MO 65102within 14 calendar days of the availability of the results.

(8) When WET test sampling is required to run over one DMR period, each DMR report shall contain information generated during the reporting period.

(9) Submit a concise summary of all test results with the annual report.

C. SPECIAL CONDITIONS (continued)

11. Whole Effluent Toxicity (WET)(continued)

(b) PASS/FAIL procedure and effluent limitations:
(1) To pass a single-dilution test, mortality observed in the AEC test concentration shall not be significantly different (at the 95% confidence level; p = 0.05) than that observed in the upstream receiving-water control sample. The appropriate statistical tests of significance will be those outlined in the most current USEPA acute toxicity manual or those specified by the MDNR.
(2) To pass a multiple-dilution test:
(a) the computed percent effluent at the edge of the zone of initial dilution, Acceptable Effluent Concentration (AEC), must be less than three-tenths (0.3) of the LC_{50} concentration for the most sensitive of the test organisms; or,
(b) all dilutions equal to or greater than the AEC must be nontoxic. Failure of one multiple-dilution test is an effluent limit violation.

(c) Test Conditions
(1) Test Type: Acute Static non-renewal
(2) Test species: Ceriodaphnia dubia and Pimephales promelas (fathead minnow). Organisms used in WET testing shall come from cultures reared for the purpose of conducting toxicity tests and cultured in a manner consistent with the most current USEPA guidelines. All test animals shall be cultured as described in the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.
(3) Test period: 48 hours at the "Acceptable Effluent Concentration" (AEC) specified above.
(4) When dilutions are required, upstream receiving stream water shall be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used as dilution water. Procedures for generating reconstituted water will be supplied by the MDNR upon request.
(5) Single-dilution tests will be run with:
(a) Effluent at the AEC concentration;
(b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
(c) reconstituted water.
(6) Multiple-dilution tests will be run with:
(a) 100%, 50%, 25%, 12.5%, and 6.25% effluent, unless the AEC is less than 25% effluent, in which case dilutions will be 4 times the AEC, two times the AEC, AEC, 1/2 AEC and 1/4 AEC;
(b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
(c) reconstituted water.
(7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.

D. SCHEDULE OF COMPLIANCE

1. The settlement agreements dated January 12, 2000 & February 10, 2003 are incorporated in this permit.

SUMMARY OF TEST METHODOLOGY FOR WHOLE-EFFLUENT TOXICITY TESTS

Whole-effluent-toxicity test required in NPDES permits shall use the following test conditions when performing single or multiple dilution methods. Any future changes in methodology will be supplied to the permittee by the Missouri Department of Natural Resources (MDNR). Unless more stringent methods are specified by the DNR,the procedures shall be consistent with the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms,

Test conditions for Ceriodaphnia dubia:

Test duration:	48 h
Temperature:	25 ± 1°C Temperatures shall not deviate by more than 3°C during the test.
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light, 8 h dark
Size of test vessel:	30 mL (minimum)
Volume of test solution:	15 mL (minimum)
Age of test organisms:	<24 h old
No. of animals/test vessel:	5
No. of replicates/concentration:	4
No. of organisms/concentration:	20 (minimum)
Feeding regime:	None (feed prior to test)
Aeration:	None
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$)
Test acceptability criterion:	90% or greater survival in controls

Test conditions for (Pimephales promelas):

Test duration:	48 h
Temperature:	25 ± 1°C Temperatures shall not deviate by more than 3°C during the test.
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light/ 8 h dark
Size of test vessel:	250 mL (minimum)
Volume of test solution:	200 mL (minimum)
Age of test organisms:	1-14 days (all same age)
No. of animals/test vessel:	10
No. of replicates/concentration:	4 (minimum) single dilution method 2 (minimum) multiple dilution method
No. of organisms/concentration:	40 (minimum) single dilution method 20 (minimum) multiple dilution method
Feeding regime:	None (feed prior to test)
Aeration:	None, unless DO concentration falls below 4.0 mg/L; rate should not exceed 100 bubbles/min.
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$)
Test Acceptability criterion:	90% or greater survival in controls